

In the Claims

✓ ✓ ✓

Please amend claims 1, 10 and 15 as follows:

*A1*

1. (Currently Amended) An electrode structure adapted for use with a fuel cell system, characterized in that the electrode structure comprises a silicon substrate having one or more selectively doped regions thereon, wherein each of the one or more selectively doped regions has a resistivity of no greater than about 0.05 Ω cm, and wherein each of the one or more selectively doped regions is adapted to function as a current collector for the transmission of an electrical current.

*A2*

10. (Currently Amended) An electrode structure adapted for use with a fuel cell system, the electrode structure comprising a silicon substrate having one or more discrete porous bulk matrix regions disposed across a top surface, wherein each of the one or more discrete bulk matrix porous regions has a resistivity of no greater than about 0.05 Ω cm and is defined by a plurality of pores that extend into the silicon substrate, wherein the plurality of pores defines inner pore surfaces, and wherein the inner pores pore surfaces have catalyst particles uniformly dispersed thereon.

*A3*

15. (Currently Amended) An electrode structure adapted for use with a fuel cell system, characterized in that the electrode structure comprises a silicon substrate having one or more selectively doped regions thereon, wherein each of the one or more selectively doped regions has a resistivity of no greater than about 0.05 Ω cm and is adapted to function as a current collector for the transmission of an electrical current, and wherein the silicon substrate further comprises one or more discrete porous bulk matrix regions disposed across a top surface, wherein each of the one or more discrete bulk matrix porous regions is defined by a plurality of pores that extend into the silicon substrate, wherein the plurality of pores defines inner pore surfaces, wherein the inner pores pore surfaces have catalyst particles uniformly dispersed thereon, and wherein the one or more selectively doped regions corresponds to the one or more discrete porous bulk matrix regions.